

**Mission Bay Landfill
Technical Advisory Committee
City Administration Building
3rd Floor Conference Room B
April 25, 2003
10:00 to 12:00**

Meeting Minutes

TAC Members Present

Donna Frye
Rebecca Lafreniere
Robert Curtis

Judy Swink
Chuck Budinger
David Kennedy, DDS

Jeoffrey Gordon, M.D., MPH
John Wilks

TAC Members Absent

Ann de Peyster, Ph.D.
Ben Leaf
Michael Zucchet

Dave Huntley, Ph.D.
Brian McDaniel
Hiram Sarabia

Frank Gormlie
Bruce Reznik

Interested Parties

Scott Andrews
Kathleen Blavatt
Patrick Owen

George Murphy
Tessa McRoe

Ileana Ovalle
Corrine Brindley

Staff

Steven Fontana
Nicole Capretz

Chris Gonaver
Ray Purtee

Sylvia Castillo

The meeting was called to order by Councilmember Frye. Self introductions were made. Councilmember Frye introduced and welcomed one new member to the TAC. John Wilks with the Sierra Club gave a brief introduction. He stated that the Sierra Club recently passed a resolution regarding Mission Bay Landfill and that his organization will be opposing Sea World's proposal to construct a new parking lot which will be before the Coastal Commission at their next meeting.

The minutes from the March 21st meeting were approved with one abstention.

As a follow-up to an item discussed at the last meeting, Chris Gonaver provided an update of the work beginning by the Development Services staff to develop a new GIS layer for active and inactive landfills and burn sites. This effort will flag all parcels within 1500 feet of these land uses to require further evaluation by the Local Enforcement Agency before development begins.

The objectives for the meeting were reviewed.

Ray Purtee provided a status update of the consultant solicitation process. He stated that documentation for Council action has been prepared and is being reviewed for docket for the Natural Resources and Culture Committee and then on to City Council. Upon execution of the agreement with SCS Engineers, a Phase One Plan describing in detail the site assessment work will be prepared with review and input from the TAC. This is expected to take up to four months. Upon acceptance of the Phase One Plan and execution of the Phase Two portion of the consultant's agreement by the City Manager, the site assessment will be conducted and a final assessment report delivered to the City for consideration of further steps if needed. This Phase Two work leading to the final report is expected to take up to eight months.

A request was made to table the review and comment on the Christian Wheeler geotechnical report (May 31, 2002) until the May meeting. The TAC agreed to postpone this discussion. Chris provided a brief overview of the Wild Artic Exhibit report from August 12, 1996. There was no follow-up discussion other than a request to provide clarification of standards used for comparison of test results. This issue is that often results are compared to Maximum Contaminant Levels (MCLs) for drinking water and these standards may or may not be protective of the ecosystem.

Chuck Budinger presented a thorough report regarding Thallium. He and Ann dePeyster, with help from Sylvia Castillo, prepared this item. Below are his conclusions and recommendations for consideration by the TAC for evaluating the presence of Thallium in the environment adjacent to the Mission Bay Landfill.

Conclusions

1. Thallium is not classifiable as a carcinogen, but has some toxic effects to humans in large ingested doses or in smaller doses to the skin. Some toxic effects include vomiting and diarrhea in lower doses, and liver and nervous system damage in long-term exposures at higher doses.
2. The No Observable Adverse Effect Level (NOAEL) is approximately 0.25 mg/kg/day-oral of body weight. NIOSH considers Thallium to be immediately dangerous to life and health at an exposure of 15 mg per cubic meter, over an 8-hour period. The Maximum Contaminant Level (MCL) established by the U. S. EPA is 2 parts per billion (ppb) and is the basic standard for drinking water quality. The most accurate Instrument Detection Levels currently in use are only to 5 ppb. A number of U. S. EPA testing methods have been used over the years through the various studies conducted at the landfill and over the period of time that the City has conducted its semi-annual monitoring plan for its Closure Permit issued by the Water Board. These testing methods produce different results and have differing detection limits associated with their use. Certain methods using light spectrometry can cause interference by other metals and lead to erroneous results, both for Thallium or the other metals.
3. Industrial uses for Thallium are wide spread, but its use was not particularly concentrated or in large volumes. Thallium can bond with a number of different compounds and molecules that have a variety of impacts on the user. These different compounds also have different solubilities in water. For example, oxides and acetates could be less soluble, while sulfates or other salts would be very soluble in water. So, the compound in use can impact the ability to migrate from the landfill.

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Recommendations

1. The TAC should consider the use of only one testing method to be used for Thallium, and other metals as well. Currently, U. S. EPA Method 6020 uses Mass Spectrometry rather than light to determine concentrations of metals in water or soil. This produces less interference and results in a much better indicator of the true value of the concentrations of Thallium and other metals in the groundwater and soil.
2. The City should also reinstate, voluntarily, the program to sample and test for Thallium on a semi-annual basis with the other metals of concern using the 6020 Method. The City suspended sampling from twice a year to once every five years on recommendation by the San Diego Regional Water Quality Control Board. However, given the variety of testing methods and instrument detection limits associated with those methods, one consistent method should be used over the course of the ensuing investigation and at a more frequent rate. By increasing the frequency of sampling to semi-annual, we should be able to detect any minor trends in Thallium migration from the landfill more accurately.
3. In addition to the numerical analysis, a program for determining the impact on the aquatic "health" should be implemented. This would require a review of the pertinent literature describing the studies completed to date on the health of a variety of aquatic organisms and the development of a comprehensive toxicity study for the area around the landfill. Studies should include Master's and Ph.D. Theses from the local universities as well.

Addendum

Shortly after the meeting I was asked about the Navy's decision years ago to stop the use of Thallium as a rat poison on ships because of some presumed health danger to the sailors. Although I have not looked into the records and would not know where to begin, there seems to be a logical explanation for their decision.

If rats live on a ship, they nest in very hidden and inaccessible areas around the ship. If rat poison is used, the rats will eat it and go back to their nests and die. Over time, especially under a vigorous program to eradicate the pests, the number of dead rats in unseen and inaccessible locations around the ship would generate a horrific smell and potential health hazard to the crew. As if that is not bad enough, during the course of time the ship is in the water or on missions, it takes on water and wastewater as pipes, and the ship itself, leaks. All this water is collected at the bottom of the ship as "bilge water." I will leave to the imagination the degree of putrefaction this water will attain under just these circumstances, but then with the addition of dead rats, the resultant water quality would be too gross to describe.

Obviously, the Navy had to find a different method to eradicate the rats than by using poison. To add insult to injury, this bilge water is discharged at sea before they come into port. I think they used to discharge it in port, but that practice was stopped some time ago. The practice of discharging it to sea may also have been discontinued.

So, there is no doubt that Thallium use on a ship caused health problems amongst the sailors, but probably not in the manner that would be expected from any known exposure route. I have no documentation for this, but from the basic practice of hygiene on a ship, it would seem

reasonable. If someone wants to look into it more fully, the results may be interesting. However, there would be no use of Thallium on board a ship other than as rat poison. There seems to be rather limited use in industry on the whole.

Councilmember Frye asked for public comment. Kathleen Blavatt mentioned that she was concerned about grading that she had seen near the entrance to Fiesta Island. ESD staff will follow-up.

Items for next agenda

- Update on the consultant approval process
- Review Christian Wheeler report
- Review Conclusions and Recommendations from Chuck's Thallium presentation
- Provide overview of last 3-5 years of monitoring reports conducted at the landfill
- Review monitoring well assessment reports
- Follow-up on issues for further study

Future Meetings

- June 27th, 10:00 – 12:00, 12th Floor Conference Room B, City Admin. Building
- July 25th, 10:00 – 12:00, 12th Floor Conference Room B, City Admin. Building